

1           1.     A system for connecting multiple home-networked client devices to a host  
2 system, wherein the host system assigns independent Internet addresses to the home-  
3 networked client devices, the system comprising:

4                 a home gateway device which includes a communication device to communicate with  
5 the host system over a single communication tunnel established between the home gateway  
6 device and the host system; and

7                 multiple home-networked client devices connected to the home gateway device via a  
8 network and that communicate with the host system through the home gateway device over  
9 the single communication tunnel,

10                wherein the system is configured to enable the host system to establish individual  
11 communication sessions with the multiple home-networked client devices over the single  
12 communication tunnel and to assign independent Internet addresses to the multiple home-  
13 networked client devices.

1           2.     The system of claim 1 wherein the home gateway device is physically located  
2 in a personal residence.

1           3.     The system of claim 2 wherein the personal residence is a single family  
2 dwelling.

1           4.     The system of claim 1 wherein the home gateway device and the home-  
2 networked client devices are physically located in a personal residence.

1           5.     The system of claim 4 wherein the personal residence is a single family  
2 dwelling.

1           6.     The system of claim 2 wherein the home-networked client devices include  
2 wireless client devices that are connected to the home gateway device via a wireless network.

1           7.     The system of claim 6 wherein the wireless client devices operate outside of  
2 the personal residence.

1           8.     The system of claim 1 wherein the home-networked client devices establish  
2 simultaneous individual communication sessions with the host system over the single  
3 communication tunnel and each home-networked client device is assigned an independent  
4 Internet address by the host system.

1           9.     The system of claim 1 wherein the host system includes an Internet Service  
2 Provider.

1           10.    The system of claim 1 wherein the home gateway device communicates with  
2 the multiple home-networked client devices using a first protocol and communicates with the  
3 host system using a second protocol.

1           11.    The system of claim 10 wherein the first protocol and the second protocol are  
2 the same.

1           12.    The system of claim 10 wherein the second protocol differs from the first  
2 protocol.

1           13.    The system of claim 12 wherein the home gateway device includes one or  
2 more modules that are structured and arranged to convert between the first protocol and the  
3 second protocol.

1           14.    The system of claim 12 wherein:  
2 the home-networked client devices are PPP enabled;  
3 the first protocol is PPPoE; and  
4 the second protocol is L2TP.

1           15.    The system of claim 14 wherein the home gateway device emulates a PPPoE  
2 access concentrator and an L2TP access concentrator.

1           16.    The system of claim 1 wherein the communication device includes a modem.

1           17.    The system of claim 16 wherein the communication device includes a cable  
2 modem.

1           18.     The system of claim 16 wherein the communication device includes a satellite  
2     modem.

1           19.     The system of claim 16 wherein the communication device includes a DSL  
2     modem.

1           20.     The system of claim 1 wherein the multiple home-networked client devices  
2     include client devices having computer software that enable the client devices to interface  
3     with the home gateway device and to communicate with the host system through the home  
4     gateway device, such that the host system is able to recognize independent client devices.

1           21.     The system of claim 20 wherein the independent client devices are recognized  
2     by the host system through the use of unique identifiers assigned to each of the client devices  
3     by the host system during the established communication session.

1           22.     The system of claim 21 wherein the unique identifiers are unique to the client  
2     devices.

1           23.     The system of claim 21 wherein the unique identifiers include independent  
2     Internet addresses.

1           24.     The system of claim 21 wherein the unique identifiers are unique to users of  
2     the client devices.

1           25.     The system of claim 24 wherein at least one of the unique identifiers includes  
2     a unique identifier for a user of the client devices combined with an independent Internet  
3     address assigned to a client device.

1           26.     The system of claim 25 wherein at least one of the unique identifiers for the  
2     user of the client devices includes a screen name.

1           27.     The system of claim 1 wherein the multiple home-networked client devices  
2     are each assigned an independent Internet address by the host system that enables the host  
3     system to recognize a user of a home-networked client device, the user having a unique  
4     identifier that is which combined with the independent Internet address to allow the user  
5     access to individual information maintained by the host system for that user.

1           28.     The system of claim 27 wherein the user having the unique identifier  
2     combined with the independent Internet address allows the host system to enforce host-based  
3     parental controls.

1           29.     The system of claim 27 wherein the individual information maintained by the  
2     host system includes wallet information.

1           30.     The system of claim 27 wherein the individual information maintained by the  
2     host system includes calendar information.

1           31.     The system of claim 27 wherein the individual information maintained by the  
2     host system includes personalized web page information.

1           32.     The system of claim 1 wherein the home gateway device includes a personal  
2     computer.

1           33.     The system of claim 1 wherein the home gateway device includes a server.

1           34.     The system of claim 1 wherein the network includes a wired network.

1           35.     The system of claim 1 wherein the network includes a wireless network.

1           36.     The system of claim 1 wherein the network includes a wired and a wireless  
2     network.

1           37.     The system of claim 1 wherein the network includes an Ethernet network.

1           38.     The system of claim 1 wherein the home gateway device includes a dynamic  
2     host configuration protocol module.

1           39.     The system of claim 1 wherein:

2           the home gateway device includes:

3                 a dynamic host configuration protocol module; and

4                 an L2TP access concentrator; and

5           the home-networked client devices communicate with the home gateway device using  
6           the dynamic host configuration protocol module.

1           40.     The system of claim 39 wherein:

2           the network between the home gateway device and the home-networked client  
3           devices uses the dynamic host configuration protocol module to enable the home gateway  
4           device to assign unique addresses to the home-networked client devices;

5           the single communication tunnel established between the home gateway device and  
6           the host system is established over a broadband network; and

7           the dynamic host configuration module is configured to facilitate communications  
8           between the host system and the home-networked client devices to enable the host system to  
9           enforce host-based parental controls.

1           41.     The system of claim 40 wherein the assignment of unique addresses is  
2           performed upon bootup of the home-networked client devices.

1           42.     The system of claim 1 wherein the home gateway device and the multiple  
2           home-networked client devices communicate over the network using DHCP and the multiple  
3           home-networked client devices are each assigned a single address that is used in  
4           communications with the home gateway device and the host system.

1           43.     A method for connecting multiple home-networked client devices to a host  
2     system, wherein the host system assigns independent Internet addresses to the home-  
3     networked client devices, the method comprising:

4                 using the home gateway device to receive a request from at least one home-  
5     networked client device to communicate with the host system, wherein the home-networked  
6     client device is connected to the home gateway device via a network;

7                 using the home gateway device to establish communications with the host system  
8     over a single communication tunnel;

9                 using the home gateway device to establish with the host system an individual  
10    communication session over the single communication tunnel, wherein the individual  
11    communication session is based on an independent Internet address assigned to the home-  
12    networked client device that requested to communicate with the host system; and

13                using the home gateway device to process communications between the home-  
14    networked client device and the host system.

1           44.     The method of claim 43 further comprising physically locating the home  
2     gateway device in a personal residence such that the request is received in the personal  
3     residence.

1           45.     The method of claim 44 wherein the personal residence is a single family  
2     dwelling such that the request is received in the single family dwelling.

1           46.     The method of claim 43 further comprising physically locating the home  
2     gateway device and the home-networked client devices in a personal residence such that the  
3     request is received in the personal residence.

1           47.     The method of claim 46 wherein the personal residence is a single family  
2     dwelling such that the request is received in the single family dwelling.

1           48.     The method of claim 43 further comprising:  
2                 using the home gateway device to establish with the host system multiple  
3 simultaneous individual communication sessions over the single communication tunnel,  
4 wherein the multiple simultaneous individual communication sessions are each based on an  
5 independent Internet address assigned to the home-networked client devices that request to  
6 communicate with the host system; and  
7                 using the home gateway device to process communications between the home-  
8 networked client devices and the host system.

1           49.     The method of claim 43 wherein the host system includes an Internet Service  
2 Provider.

1           50.     The method of claim 43 wherein using the home gateway device to process  
2 communications between the home-networked client device and the host system includes:  
3                 using the home gateway device to communicate with the home-networked client  
4 device using a first protocol; and  
5                 using the home gateway device to communicate with the host system using a second  
6 protocol.

1           51.     The method of claim 50 wherein the first protocol and the second protocol are  
2 the same.

1           52.     The method of claim 50 wherein the second protocol differs from the first  
2 protocol.

1           53.     The method of claim 50 wherein the first protocol includes PPPoE and the  
2 second protocol includes L2TP.

1           54.     The method of claim 53 wherein the home gateway device includes a PPPoE  
2 access concentrator and an L2TP access concentrator.

1           55.     The method of claim 50 wherein using the home gateway device to process  
2 communications includes:  
3           removing a first header from the communications received from the home-networked  
4 client device destined for the host system;  
5           adding a second header to the communications; and  
6           sending the communications with the second header to the host system.

1           56.     The method of claim 55 wherein using the home gateway device to process  
2 communications includes:  
3           removing a third header from the communications received from the host system  
4 destined for the home-networked client device;  
5           adding a fourth header to the communications; and  
6           sending the communications with the fourth header to the home-networked client  
7 device.

1           57.     The method of claim 43 wherein the home gateway device includes a dynamic  
2 host configuration protocol module.

1           58.     The method of claim 43 wherein using the home gateway device to process  
2 communications between the home-networked client device and the host system includes:  
3           using the home gateway device to communicate with the home-networked client  
4 device using DHCP; and  
5           using the home gateway device to communicate with the host system using L2TP.

1           59.     The method of claim 43 wherein:  
2           using the home gateway device to establish communications with the host system  
3 includes establishing communications with the host system over a broadband network; and  
4           using the home gateway device to process communications between the home-  
5 networked client device and the host system includes the home gateway device using the  
6 host-assigned independent Internet address to communicate over the network with the home-  
7 networked client device.

1           60.     The method of claim 59 wherein the independent Internet address is assigned  
2 to the home-networked client device upon bootup.



1           61.     A method for connecting multiple home-networked client devices to a host  
2     system, wherein the host system assigns independent Internet addresses to the home-  
3     networked client devices, the method comprising:

4                 using the host system to receive a request for an individual communication session  
5     with a home-networked client device;

6                 using the host system to establish communications with the home gateway device  
7     over a single communication tunnel;

8                 using the host system to establish with the home gateway device the individual  
9     communication session over the single communication tunnel, wherein establishing the  
10    individual communication session includes assigning an independent Internet address to the  
11    home-networked client device that requested to communicate with the host system; and

12                communicating between the host system and the home-networked client device  
13    through the home gateway device over the individual communication session.

1           62.     The method of claim 61 further comprising physically locating the home  
2     gateway device in a personal residence such that the request is received in the personal  
3     residence.

1           63.     The method of claim 62 wherein the personal residence is a single family  
2     dwelling such that the request is received in the single family dwelling.

1           64.     The method of claim 61 further comprising physically locating the home  
2     gateway device and the home-networked client devices in a personal residence such that the  
3     request is received in the personal residence.

1           65.     The method of claim 64 wherein the personal residence is a single family  
2     dwelling such that the request is received in the single family dwelling.

1           66.     The method of claim 61 further comprising:

2           using the host system to establish multiple simultaneous individual communication  
3 sessions with the home gateway device over the single communication tunnel, wherein  
4 establishing the multiple simultaneous individual communication sessions includes assigning  
5 an independent Internet address to each home-networked client device that requests to  
6 communicate with the host system; and

7           communicating between the host system and the home-networked client devices  
8 through the home gateway device over the multiple simultaneous individual communication  
9 sessions.

1           67.     The method of claim 66 further comprising having the host system use the  
2 assigned independent Internet address to communicate individual information maintained by  
3 the host system to the home-networked client devices.

1           68.     The method of claim 67 wherein the individual information includes host-  
2 based parental controls.

1           69.     The method of claim 67 wherein the individual information includes wallet  
2 information.

1           70.     The method of claim 67 wherein the individual information includes calendar  
2 information.

1           71.     The method of claim 67 wherein the individual information includes  
2 personalized web page information.

1           72.     The method of claim 61 wherein the host system includes an Internet Service  
2 Provider.